

INSTRUCTIONAL & INFORMATION TECHNOLOGY SERVICES

ANNUAL REPORT

18-19



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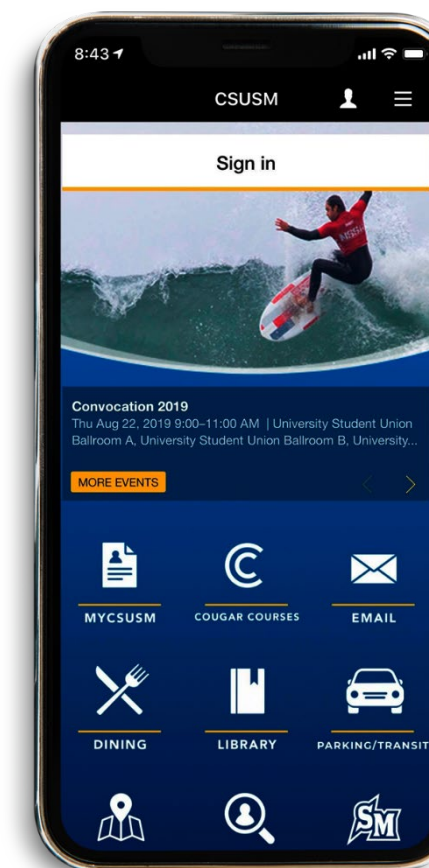
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CAMPUS MOBILE APP

Development of a fully-featured App that would allow students to perform most common university tasks from their smartphone continues to grow year-over-year.

The App was updated last Fall with a vibrant new look and new features for students. Added functionality, such as the Virtual ID, turned out to be very popular with students. Key updates also included featured events in a prominent position on the home screen, access to parking services, and user authenticated integration with MyCSUSM and Cougar Courses.

Additional functionality continues to lead strong growth in utilization, with almost 2,000 daily users. Top functions included access to Cougar Courses (279,851 visits), MyCSUSM (186,774), and the Message Center (47,857). Remarkably, the top 10 functions saw over 1 million-page views.



UNIFIED COMMUNICATIONS

This initiative seeks to deploy targeted, personalized communications systems and services that improve service and align the delivery of university messaging. The scope of the project spans web, mobile, and voice technologies to include personalized web experiences, mobile connections to campus services, and improved telephone service delivery options.

Currently, CSUSM utilizes two phone systems: the MX-One ("new system") and Pointspan (20 year "old system"). The Pointspan system is now officially unsupported by the original manufacturer, though CSUSM has vendors that will continue to maintain the system. CSUSM is proceeding with the staged replacement of the existing system, which will span several years. The current plan is to implement a hybrid approach that combines on-premise phones and "cloud" hosted telephone services.

To date, IITS has been funded \$100,000 to perform the initial system implementation. By start of Fall 2019, IITS will also replace the campus' obsolete call-queuing system. Currently there are nine call center groups on campus.



CONSTITUENT RELATIONSHIP MANAGEMENT (CRM)

Salesforce, a new Constituent Relationship Management (CRM) system began limited services in 2019.

During the first phase, the system is being deployed to track and manage communications with prospective students. Over time, the system could support a wide array of services ranging from the needs of prospective students to alumni and other campus connections.

The initiative is progressing very well, with the initial deployment completed for Enrollment Management Services (this project replaced their Hobsons Radius system). Pilot phase work continues with Community Engagement and Extended Learning.

San Marcos is also collaborating with four other campuses (Fullerton, Northridge, East Bay and Monterey Bay), sharing a Salesforce Customer Success Architect (CSA) and looking to partner on projects of mutual interest to save both time and funds.



DIGITALIZATION/ELECTRONIC WORKFLOW

In the current fiscal year, CSUSM generated almost 13,000 electronic documents, representing a 70% increase in usage year-over-year. In FY

18/19, CSUSM adopted an eSignature Policy to promote the use of electronic forms and purchased an enterprise license of DocuSign, the campus' standardized platform for electronic forms.

At the time of approval, DocuSign was projected to cost \$45,000 per year, with cost containment through the Internet2 contract for the next three years. IITS purchased DocuSign, suspended scanning efforts, and began to focus on document conversion.

In August of 2018, CSUSM was informed the existing Internet2 agreement with DocuSign would end on March 24, 2019, and was forced to reach a new contract agreement with a significant price increase. Given the substantial and unsustainable increases in the cost of licensing, IITS was forced to reevaluate the campus' eSignature vendor solution. Subsequently, CSUSM has joined the CSU's Master Enabling Agreement with Adobe Sign, which will replace DocuSign as the campus' standardized platform for electronic forms before the end of calendar year 2019.

E-ONECARD

This proposed initiative will be deployed in conjunction with CSUSM's first residential meal services. Initial discussions have occurred between IITS, the CSUSM Corporation, and on-campus retail service providers, but overall progress on the initiative continues to proceed slowly as the functional needs, operational requirements, and implementation dates remain unclear.

Assuming the project proceeds beyond the concept phase, the eOneCard would offer smartphone-enabled (no physical card requirement) electronic ID and retail transaction service for on-campus purchases, check-in at events/locations, provide ticketing, and support other ID-based campus functions. The exploration phase continues and additional planning is needed to identify an acceptable funding and operational strategy to meet the vendor deployment specifications.

SUPPORTING THE CAMPUS COMMUNITY

KELLOGG 2000 REMODEL - TECHNOLOGY LEARNING CENTER

Prior to the start of the Fall 2018 term, IITS completed a renovation of the Kellogg 2000 Open Lab, now called the Technology Learning Center (TLC).

The TLC immediately increased in popularity as an on-campus study space due to its comfortable-yet-functional layout, which was a dramatic change from the prior configuration. Prior to the renovation, student feedback was collected to gauge the satisfaction level among students.



At that time, students were not drawn to the space given the lack of comfortable furniture and the basic level of technology. As part of the new design, and in alignment with utilization reports, the computer count was reduced from 102 to 54, and 10 new private study lounge chairs were added. The lab was refreshed with new paint, carpet, ergonomic seating, larger desks, more flexible seating for group work, and new computers with 27" and 34" monitors.

While the computer count has been reduced to meet the shift in students use of technology, the average number of unique logged in users per day is 56% higher in the new renovated space compared to previous terms. Weekday usage (Monday through Thursday) has increased almost 74% compared to AY 17/18 and weekend unique logins have increased three-fold.



With the increased daily traffic, the TLC receives a daily cleaning, which is one example of how IITS strives to provide the best technology and consistent high-quality service in a pleasant space that improves the overall experience for the campus community in their encounters with technology.

NEW BUILDING & NEW CLASSROOM TECHNOLOGY

Construction of the new Extended Learning Building and the remodeling of the Foundation Classroom Building engaged IITS across many service platforms. These buildings required new networking, telephone services, desktop support, electronic signage, and classroom technology.

In Spring 2019, IITS worked with multiple constituent groups to develop new lecture technology standards that bring added flexibility and functionality for faculty. Added features include large interactive tabletop displays paired with height

adjustable lectern platforms.

In total, twenty-one classrooms are currently being outfitted with this new configuration in time for use in Fall 2019. IITS supported both projects with just over \$375,000 in funding for classroom technology.

The EL Building will also include additional service enhancements such as wireless coverage throughout the new parking structure, exclusive deployment of the new Voice-over-IP telephone services, and new conference room and signage technology throughout the building.



CAMPUS WEBSITE AND SEARCH

The campus website received updated styling in December 2018 to keep the appearance visually appealing and engaging. The website now offers a lighter and more condensed view consistent with the objective to streamline, trim, optimize, and personalize web content.

The left-hand navigation saw the most significant technical change, with a new condensed design. The campus search page also received new styling (to match the campus homepage) including new filtering features that utilize Google's search engine to deliver refined search results handling. The new style on the search results page also includes the

use of tabs to maximize usage of screen space.

Additionally, the search filter update includes options to refine searches by file type, such as PDF or Excel, in addition to the page remembering the department a search was originating from, that enables the engine to deliver dynamically filtered results from within specific areas.



THE REFRESH

In FY 18/19, the Technology Refresh Program reached a milestone of being fully funded with a base budget of

\$1.35 million dollars.

Based upon current projections, this amount should be sufficient for a 4-year scheduled replacement of all faculty, staff, and instructional computer equipment.

As a result of the restored funding, this year has seen one of the largest replacements of computers across campus in CSUSM's history.

In total, IITS replaced 79 faculty computers (many of which are enhanced configurations covered by IITS funding), 268 staff computers,

and 870 classroom computers throughout the campus. After completing this year's refresh program upgrades, the campus will move into the final year of a split refresh schedule as staff and faculty will re-align to the same refresh cycle at the end of FY 19/20.

PROGRAM



KELLOGG VIDEO WALL AND CAMPUS DIGITAL SIGNAGE

For Fall 2018, IITS, in partnership with the Office of Communications, Library, and Facilities, deployed a new six-screen video wall located near IITS' Technology Learning Center on the 2nd floor of Kellogg Library.

This provides information to a main walking corridor and Library seating area. This new video wall hosts a wide variety of formats and a range of content opportunities, including live streaming of election results in November 2018.

Additionally, many of the digital signs now have sophisticated data feeds that have been configured to display current and location-relevant information to students. The latest example of student-relevant information deployed in June 2019 was the listing of names of students attending each orientation day in a personalized welcome message.



These changes have been implemented to better support the campus community and the staff/equipment mobility requirements of the new Extended Learning Building. Beginning in October 2018 faculty and staff members who received service were sent a post-service survey on their experience. The sample size included 583 faculty/staff, of which 99% (578) responded that they were satisfied with their engagement with IITS staff.

CUSTOMER SERVICE EXCELLENCE

IITS continues to focus on providing friendly and responsive service.

Beginning in Fall 2019, IITS moved the Faculty/Staff Help Desk to the Technology Resource Center (TRC) in Kellogg 2414 to provide faculty and staff with dedicated walk-up support. The help desk has a greeter available during business hours to provide immediate assistance and connect individuals with the right technical or instructional support. The relocation of IT staff allows for streamlined equipment handling that was further supported by the purchase of two new electric carts.



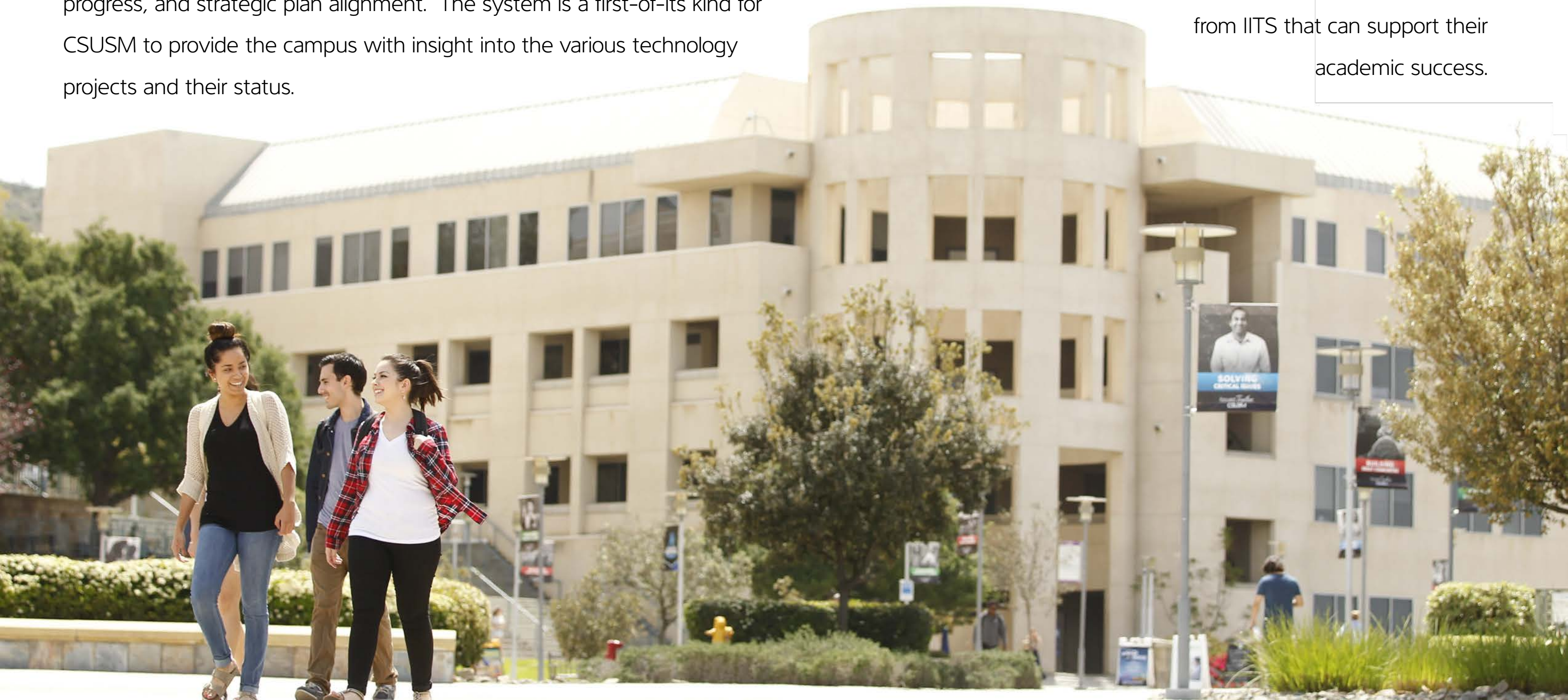
(sticker available at IITS Help Desk)

NEW PERSPECTIVES INTO IT PROJECTS

The IT Strategic Plan is CSUSM's guide to inform and prioritize key initiatives, and the successful completion of these projects is fundamentally important to the Plan's success.

In early 2019, a new Portfolio Management website was unveiled as a tool the campus can access to learn more about project information, work progress, and strategic plan alignment. The system is a first-of-its kind for CSUSM to provide the campus with insight into the various technology projects and their status.

ITS also increased public communications with a new home page that highlighted 15 new Technology Spotlight stories. The new IITS website also provides new insights for the public including systems statistics, metrics and measures, and IITS service videos. Lastly, IITS developed a new Student Technology Service Guide, available to students at Orientation. This guide outlines all the technology services available from IITS that can support their academic success.



CONTINUED UPWARD TREND ON WIRELESS USE

The CSUSM outdoor wireless network has become ubiquitous and now covers almost every actively used outdoor space across campus.

Due to the expansion of coverage, CSUSM has seen explosive growth as wireless traffic continues to increase across campus throughout the academic year. To put this in perspective, the total network traffic was 1.5 petabytes, with the total outdoor wireless traffic reaching 15.5 terabytes (TB). In 2018, the total number of wireless connections was close to 7 million, with total outdoor wireless connections approaching 800,000.

In 2018 the top three wireless locations were the Dome Patio (2.24 TB), USU Outdoor Amphitheater (1.67 TB) and the USU Roof Patio (1.64 TB). Netflix, Instagram, and YouTube continue to be the top trending services with students based upon wireless throughput.

Over the past year, IITS also worked closely with Planning, Design and Construction, along with external vendor AT&T, to build out the infrastructure to provide wireless connectivity to the Mangrum Track & Field in time for Commencement (2019). IITS is currently investigating additional extensions to expand wireless to the athletic multi-purpose field in the northwest corner of campus.



(sticker available at IITS Help Desk)

INCREASED USAGE OF QUALTRICS

The Qualtrics survey platform continues to see strong utilization, with 2,129 surveys and over 100,000 responses during the fiscal year. Qualtrics is licensed for the entire campus community, and CSUSM has over 1,800 creators, 1,300 of which were students. For the second year in a row, Qualtrics was used for ASI Voting. Qualtrics proved to be a solid application as 1,291 students successfully voted, a 30% increase from the previous year.



NEW CAPABILITIES ENHANCE GRADUATION EXPERIENCE

Continuing a multi-year trend, the online viewership for Commencement continues to grow by double digits. This year's (May 2019) increase was 15%, as the live stream was seen by 3,216 total unique viewers.

The event continues to benefit from the infrastructure improvements stemming from the partnership with PD&C on the AT&T cellular tower project.

The extension of fiber network to the field (first deployed in 2018) supports the stability of the video operations, and, new for this year, supported the addition of new wireless access points on the light poles around the track.

Data collected over three days showed that over 10,834 devices connected to the campus network,

with most data social media related. A roaming camera was also added to share the fun and excitement of students walking into the ceremony.



MEDIA EVENT SUPPORT

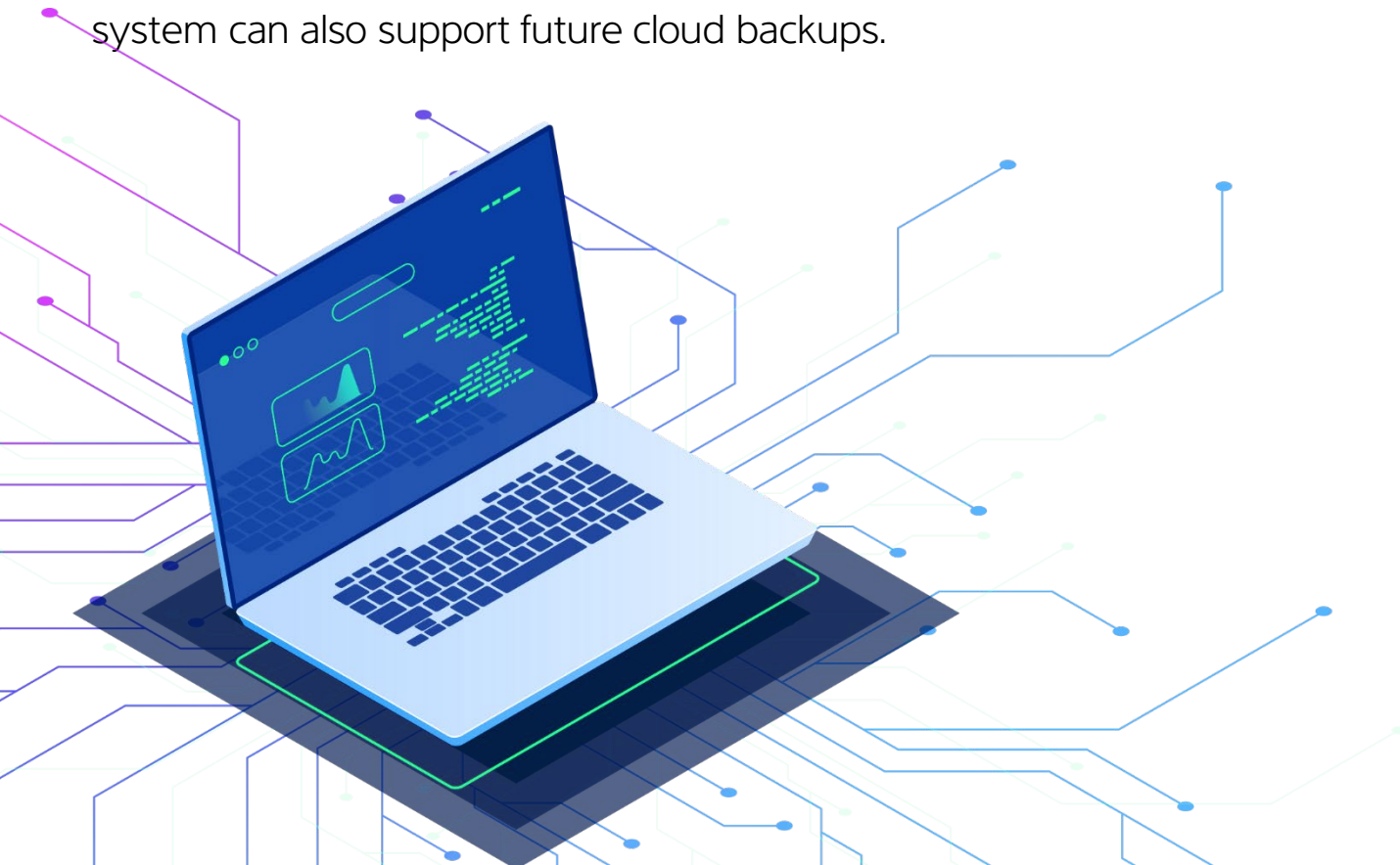
Media support of campus events accounted for approximately 100 hours of content in Fall 2018 and 160 hours in Spring 2019. These included both audio system support and field video recordings.

Media distribution continues to be robust, with approximately 150,000 views per semester. IITS did notice a small reduction in informal video publishing via Mediasite, which may be attributed to an increased use of Zoom or YouTube for streaming.

DATA CENTER UPGRADES

After several years of delayed equipment replacement, IITS upgraded the on-premises central storage system with a new platform that provides 50% more storage capacity and up to five times better performance. Utilizing only one third of the physical size of the prior system, the new storage array continues the trend of shrinking the Data Center footprint.

IITS also purchased a new virtualization infrastructure and backup hardware. The virtualization hardware consolidates and replaces two existing environments that were aging out after five and eight years of respective production service. The new virtual infrastructure will also shrink the computing footprint by utilizing a fourth of the space of the prior equipment while still allowing for expandability as needed. Approximately 360 virtual machines will shift to this new infrastructure. Lastly, a new backup system was deployed that increases the campus' storage capacity from 30TB to 50TB. The new backup system can also support future cloud backups.

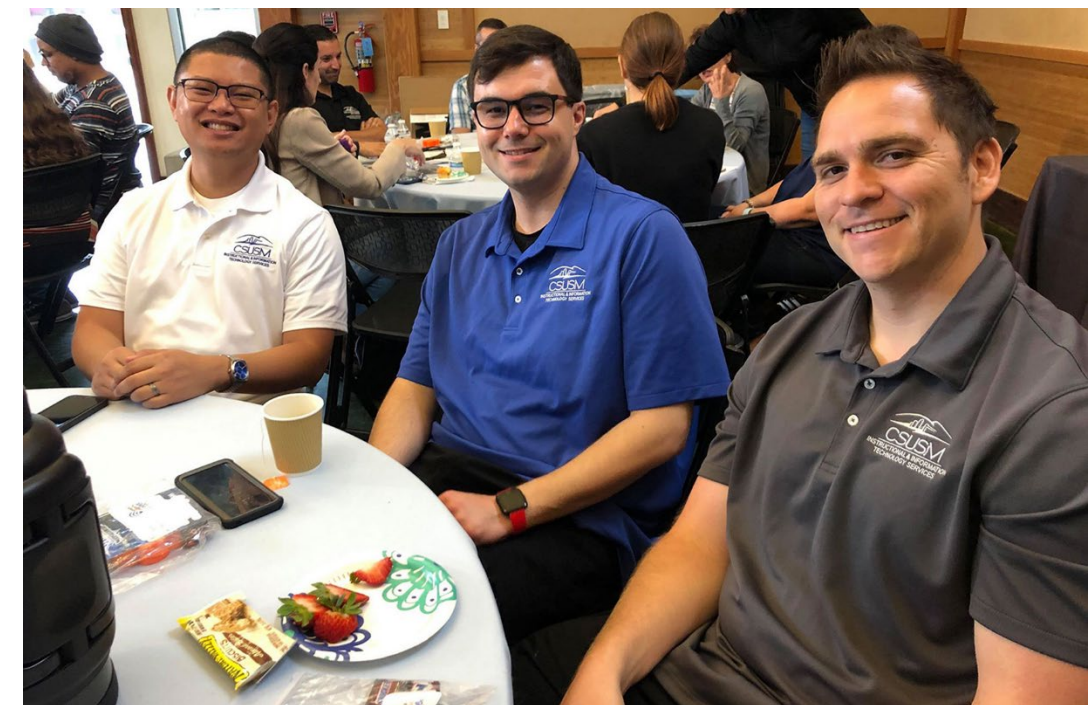


STAFFING

While progress has been made in this area, competitive salaries and recruitment difficulties continue to be a challenge for the department. To address these challenges, IITS invested \$268k in pay increases during FY 15/16 through FY 17/18.

.During that time 93 staff received an IRP, reclassification, or promotion. The additional base budget funding of \$354k in FY18/19 for staff increases resulted in 51 staff receiving an IRP and/or reclassification this year with the objective to utilize these funds to retain critical staff and set a baseline salary of \$60,000.

In FY 17/18, a bonus pool of \$30k from salary savings was also distributed amongst 25 staff for exceptional performance and/or effort and work that was above and beyond position expectations. IITS is looking at strategies to help sustain an annual bonus pool to recognize exceptional performance and efforts. On a positive note, the Technology Support Services (TSS) group is fully staffed for the first time in many years, though there continues to be five total vacancies in the department, four of which are actively being recruited.



TECHNOLOGY

AS A KEY COMPONENT FOR INNOVATIVE INSTRUCTION



INSPIRATION STUDIOS AR/VR

During the academic year IITS began exploring faculty requirements for an augmented reality and virtual reality exploration, discovery, and learning space.

To support these efforts, several iterative plans were developed to explore the reuse of the existing Kellogg Studios. These plans eventually became what will be known as Inspiration Studios. This transformation will be made through the deployment of new AR/VR technologies and an update of the existing studio facilities with a more modern infrastructure.

The revitalized facilities will be flexible, responsive, research oriented, and experimental in design to provide the space where ideas can be cultivated.

In addition to the remodel of the studios, several ancillary work spaces are also being improved. This project is anticipated to be complete prior to the start of the Fall 2019 term.



CALM SAVING

The Cougars Affordable Learning Materials Project

helps faculty find lower-cost alternatives to costly textbooks by using high-quality Open Educational Resources (OER). In academic year 2018/19 15 faculty, teaching a combined 118 course sections, participated in CALM. These sections contained 9,181 students, with an average savings of \$119 per student. The total textbook savings for students is \$1,092,539, and the total savings between 2013 and 2019 is over \$4.4 million dollars.



FACULTY WORKSHOPS

IITS created a series of workshops this year on Student Engagement, Designing Inclusive Learning Experiences, and Technology & Media.

These 15 Tech Bites workshops ran throughout the Fall and Spring semesters, training 57 faculty members on accessibility, various toolkits, team projects, discussions, and how to make presentations more innovative. This year IITS gave out four certificates to those faculty who attended more than 6 different Tech Bite courses. IITS also hosted the Get Activated workshops, which focused on using active learning and incorporating media into online courses. These sessions were successful in providing information about these sophisticated online course elements.

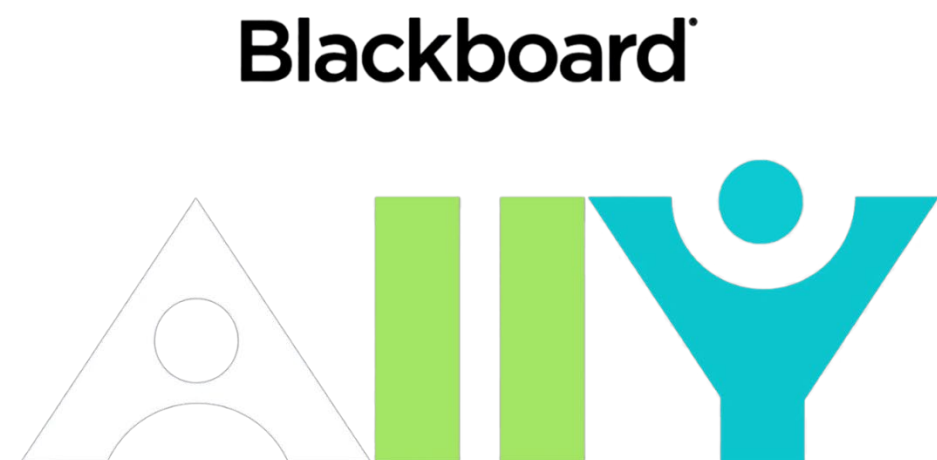
INTRODUCED ALLY BY BLACKBOARD

Accessibility to course content is driven by providing materials in the best formats that meet the needs and preferences of diverse learners. PDF, Word, and PowerPoint files often do not work on mobile devices or with note-taking apps.

Ally was introduced to guide instructors on how to edit files and materials into more accessible formats while providing students choices for different formats (HTML, audio, epub). Deployed in phases, IITS performed a soft launch in Fall 2018 and a full launch in Spring 2019.

The service exceeded our anticipated goals, as some courses increased accessibility upwards of 90%. The highlight and success indicator for this project was the fact that over 4,225 alternative format files were downloaded during the first academic year. Faculty are also engaging with the tools as there have been over 1,060 instructor improvements.

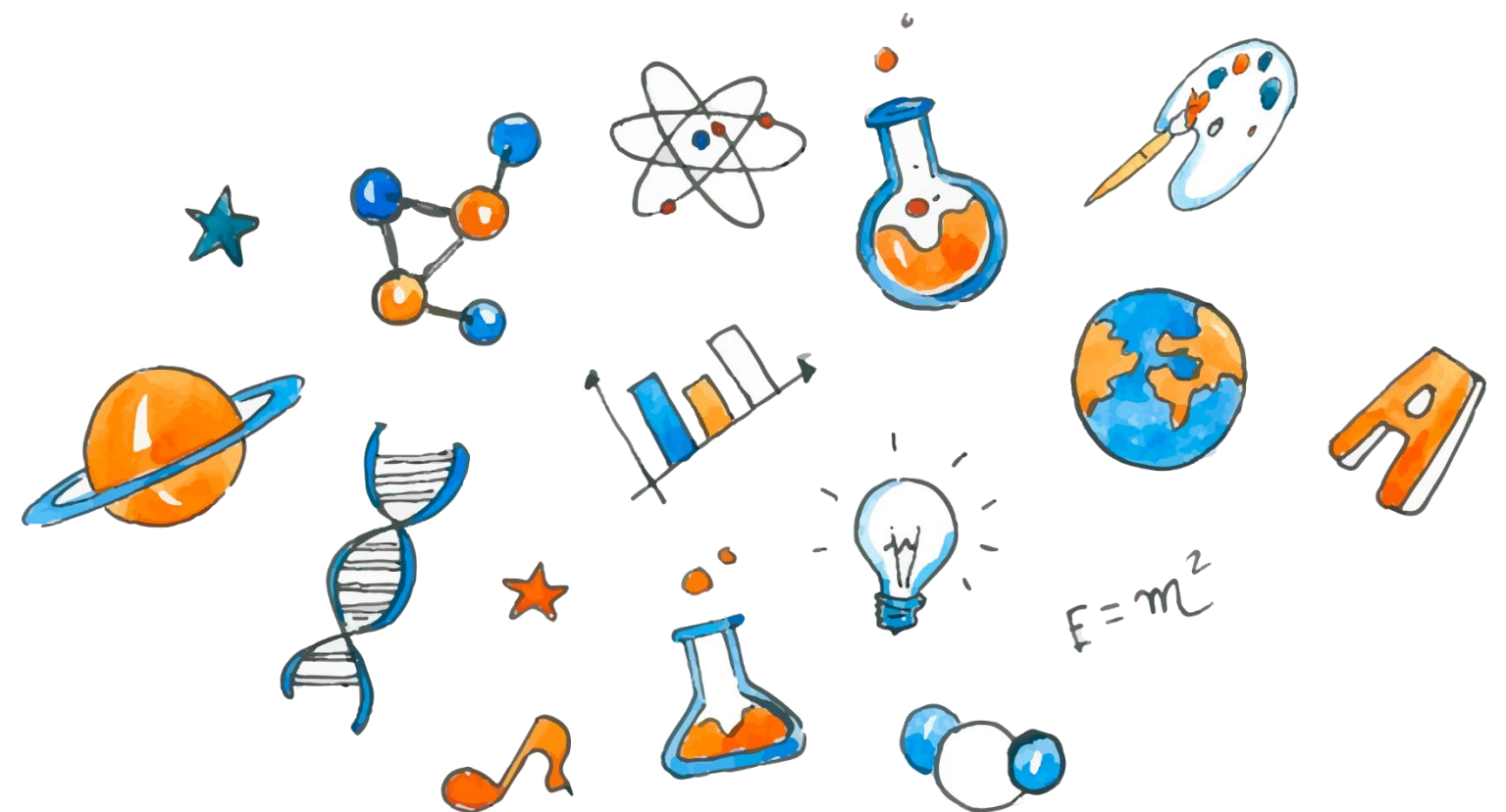
To build upon the initial successes, IITS has begun a process to engage instructors that have 5-9% accessibility scores to let them know that IITS will process the course materials into more accessible formats on their behalf.



IITS ASSISTS COMPUTER SCIENCE S-STEM PROJECT

In 2018-19, IITS assisted grant funded STEM projects where upper-class computer science students are mentored by industry partners to work on real world projects. The assistance involved building several servers, setting up access for the students, and providing mentoring to student teams on a weekly basis.

Support will continue through 2019-20, as partnering with the faculty on these projects and mentoring opportunities aligns well with the campus' IT technology guiding principles.



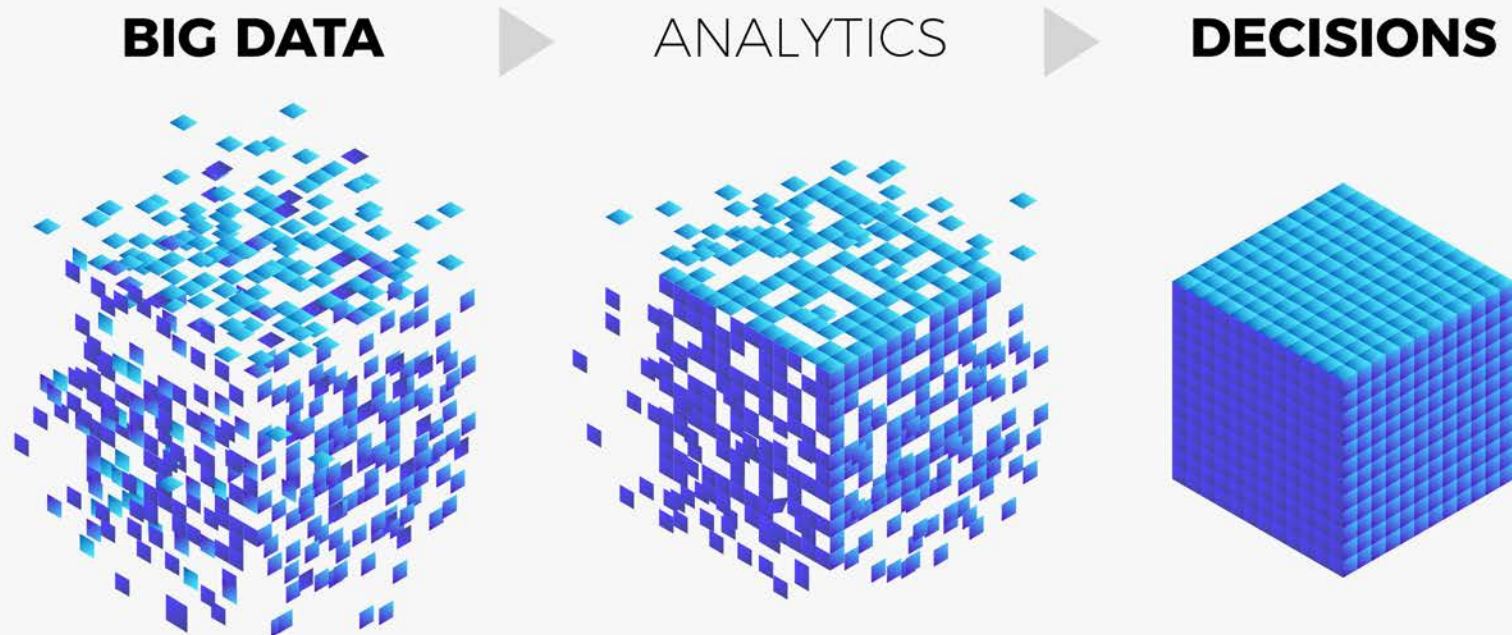
DEGREE, SET, GO CAMPAIGN

IITS staff continued to work closely with the Vice Provost and other campus community members to support the initiatives for student success and GI2025.

IITS improved upon the term course information and associated rules in PeopleSoft with reports to support administrative process improvements that included effective level enrollment appointments and identifying the need for additional course sections in the class schedule.

The Degree Planner and Schedule Assistant videos and website were also updated to guide students through the registration process with workshops on how to 'Enroll the Cougar Way'.

Faculty and staff training continued via many venues, including group and one-on-one training sessions, and an overflow presentation was also given at CSUSM Discover Day.



RADAR DATA WAREHOUSE

IITS continued to collaborate with partners in Institutional Planning and Analysis to implement numerous improvements to the RaDAR user experience. These include a more streamlined data request process that builds better oversight into the request workflow.

Other improvements include integration of Tableau dashboards into RaDAR website navigation and refinements to the website's ability to alert users to issues with the data warehouse refresh process and data timeliness. During this period IITS also upgraded much of the underlying infrastructure supporting the data warehouse, including updates to the web code as well as upgrading the Oracle backend database to the latest release.



DASHBOARDS AND REPORTS

Between Fall 2018 and Spring 2019, 95 data requests were successfully satisfied through the development and delivery of various reports, dashboards, and PeopleSoft queries.

IITS worked closely with various campus partners to assess and address their data and reporting needs. Deliverables of note during this period include a dashboard highlighting demographic trends of all campus employees over time (developed for the Office of Inclusive Excellence). To improve campus operations, a series of dashboards were deployed to provide monitoring information about the health and performance of the 30+ data integrations that update core campus systems support proactive response and resolution when errors occur.



CLOUD COMPUTING &

ONLINE SERVICES



SUPPORT FOR FACULTY RESEARCH/CLOUD COMPUTING

IITS is currently working with a consulting firm to deploy several cloud-hosted research environments. Currently, IITS is focused on overcoming the technical and billing complications that this new computing model brings and are working with faculty in support of their research grants that require large computing environments.

In addition to the work on campus, IITS is participating in the CSU system's Cloud Steering Group and the Cloud Acceleration Center, focusing on supporting research and disaster recovery efforts. Implementation will continue through 2019-20 and the pace of implementation will be determined by the CSU cloud computing projects.



DATA FEEDS AND APPLICATION INTEGRATIONS

Seeking to improve operational efficiencies, over 30+ data feeds and integrations were updated and standardized to ensure that all business-critical integrations are being adequately tracked and monitored.

Other notable projects included the completion of data integrations for Facilities (AIM Assetworks data feed), Administrative Applications (OnBase Approval Path data feed), and the campus CRM project (Salesforce data feed).



EXPANDING USE OF PLATFORM AS A SERVICE (PaaS)

IITS has successfully cloned the Portfolio Management application for the Office of Inclusive Excellence (OIE) to track their projects and status. By creating this additional application in the cloud, IITS is successfully expanding the use of PaaS to support the campus needs.

ADMINISTRATIVE APPLICATIONS SUPPORT

Many administrative offices are dependent upon some form of administrative system or service specific to their area's functional needs. Every year the number increases with the campus currently supporting over 100 distinct administrative applications that require some measure of tracking, monitoring, and/or systems administration. To support the growing number of unit specific IT support services, IITS reorganized some of the existing technical

support staff into a new group that created an Administrative Applications unit. These individuals function as the technical point of contact and provide system administration and general technical support services.

ADOBE AVAILABLE FOR ALL STUDENTS

By participating in a new CSU systemwide agreement, CSUSM was able to expand the availability of the Adobe Creative Cloud Suite across campus. Because of the availability of a new licensing option, CSUSM has made the full suite available to all currently enrolled students at no cost.

This licensing allows for faculty, staff, and students to install the Creative Suite on a personally owned device. These creativity enhancing tools are a valued addition for the campus community as they help to enhance all forms of electronic work products.

SYSTEM AND GOVERNMENT REGULATORY COMPLIANCE



WEBSITE ACCESSIBILITY COMPLIANCE

IITS has put significant resources of both time and personnel as CSUSM continues to strive to improve the ATI Annual Report's measurement criteria. The CSU has specific measurement standards for ATI Success Indicators that cover three areas; these include: Web, Information and Computer Technology (ICT) Procurement, and Instructional Materials.

During the fiscal year, CSUSM reported progress of reaching Baseline performance across all success indicators. Achieving the higher levels of Above Baseline performance will require CSUSM's continued focus on process improvements. An ongoing plan is in place that requires CSUSM to 1) increase accessibility expectations for all faculty and staff, 2) allocate additional campus accessibility assistance resources, and 3) increase visibility and commitment to accessibility to move our current campus performance.



SUCCESSFUL ORACLE/PEOPLESOFT PEOPLETOOLS UPGRADE

The campus' PeopleSoft portal, myCSUSM, provides convenient, reliable, and secure access to information and self-service transactions for students, faculty, and staff. In Spring 2019 IITS successfully completed the PeopleTools Upgrade and moved the campus forward on the technical roadmap provided by Oracle and CMS.

GREYHELLER (APPSIAN) APPLICATION FIREWALL

IITS continues to deploy new technologies that increase data security and privacy for information stored in campus administrative systems.

In late summer 2018, new data masking technology was deployed to protect sensitive data such as Social Security and credit card numbers. Utilizing the newly acquired Appspan software, IITS deployed data masking to the PeopleSoft environment and implemented new role-based security. This new tool also logs individual interactions where authorized staff view sensitive data. This provides historical logging of not only who is viewing sensitive information but also the broader "what, where, and when" the event occurred.

MULTI-FACTOR AUTHENTICATION PILOT A SUCCESS

As part of a systemwide initiative, CSUSM also began the initial deployment of multi-factor authentication for individuals who have elevated or sensitive levels of access into CSUSM systems.

Beginning in the fall of 2018, CSUSM implemented the Duo multi-factor authentication software into applications that store or process "Level 1" confidential information. Similar to other products, DUO uses a smart phone to validate access for individual users. This added protection has proven to

be a minor inconvenience for staff in exchange for much greater security. Implementation for all faculty and staff will continue through 2019-20 with the eventual deployment to students.

INFORMATION TECHNOLOGY REVIEW (ITR) PROCESS

As part of CSUSM's commitment to ensuring the resources and tools used on campus are accessible, secure, and compatible with our IT infrastructure, IITS introduced a new method to review information and computer technology purchases prior to issuance of a Purchase Order.

Formerly known as E&IT, the new Information Technology Review (ITR) process continues to answer the need for better documentation to respond to security and ATI audits as well as provide a standardized and tracked method for the university to request the procurement and renewal of IT goods and services. Noted as a model process for others, IITS has demonstrated this process to several CSU systemwide groups.

